

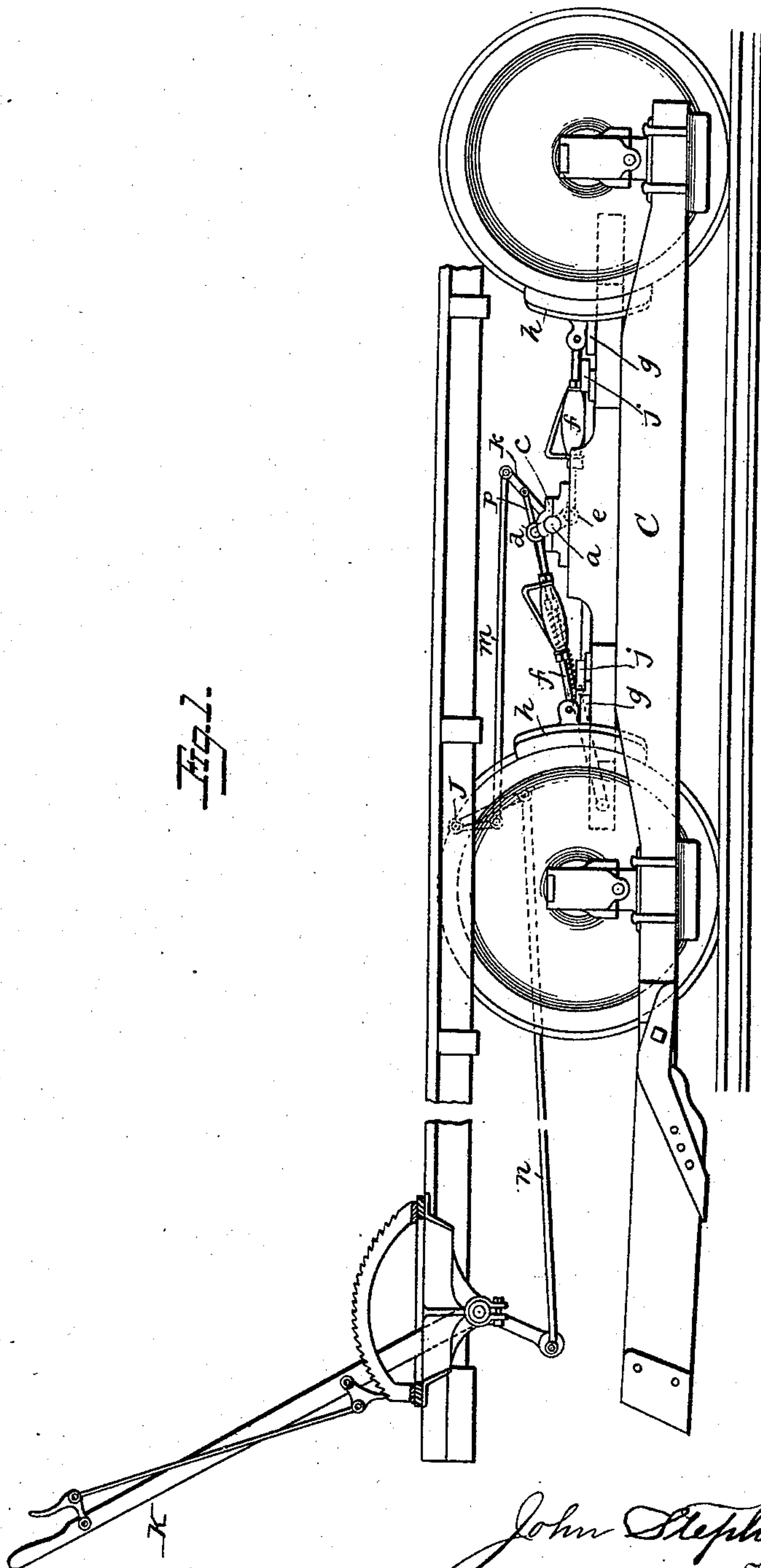
(No Model.)

2 Sheets—Sheet 1.

J. STEPHENSON.
WHEEL BRAKE.

No. 412,560.

Patented Oct. 8, 1889.



Witnesses
Jno. G. Hinkel Jr.
Georgia P. Kramer.

John Stephenson
Inventor

By his Attorneys
Foster Freeman

(No Model.)

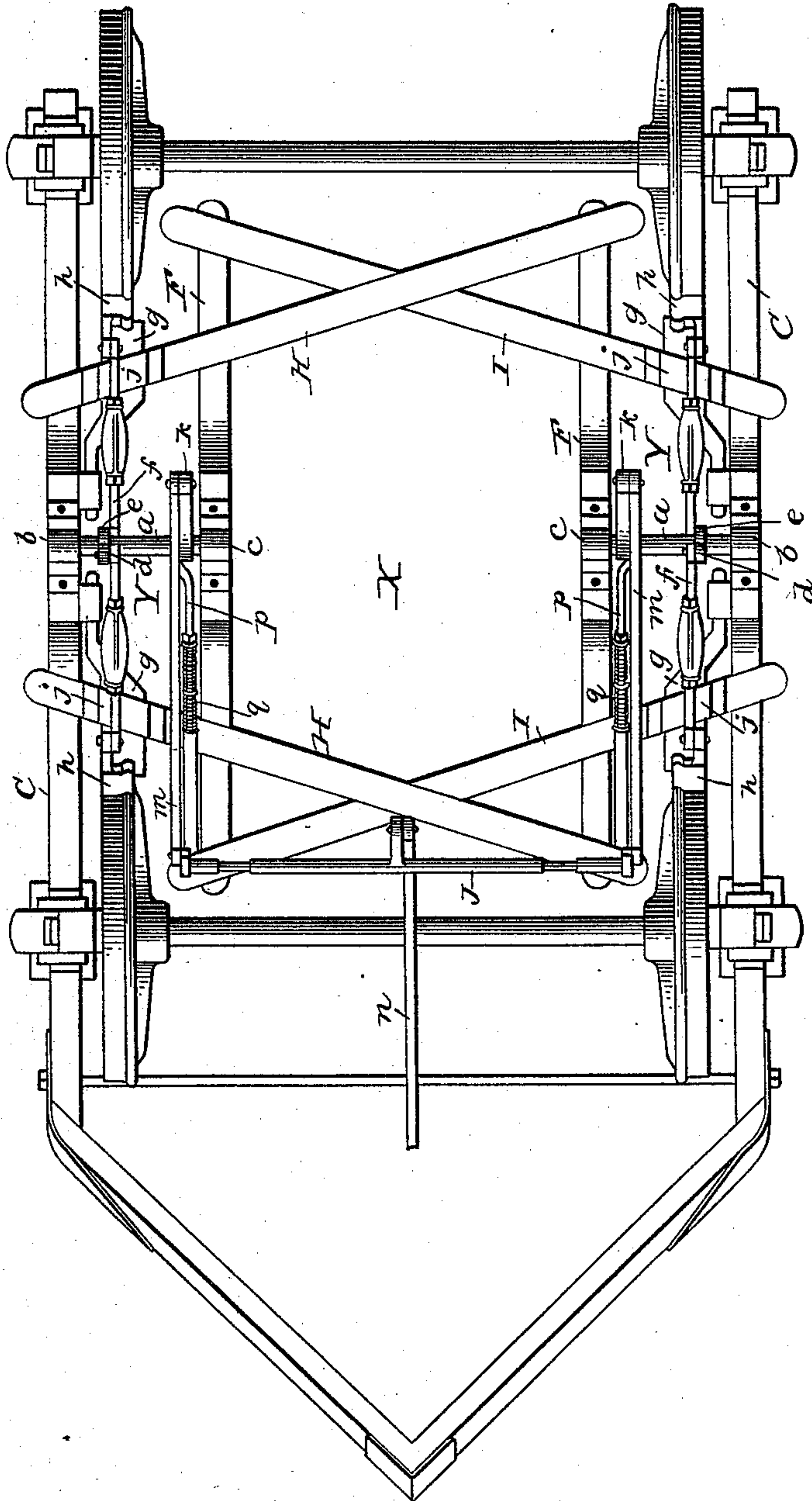
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Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

WHEEL-BRAKE.

SPECIFICATION forming part of Letters Patent No. 412,560, dated October 8, 1889.

Application filed August 10, 1889. Serial No. 320,393. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEPHENSON, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Wheel-Brakes, of which the following is a specification.

In cars, especially those adapted for cable or electric propulsion, the wheel-brakes are most efficient when the shoe has no vertical motion, because but little shifting of the shoe is then required to relieve contact with the wheel. I provide means whereby the shoes are carried by slide-bars resting on the cross-rails of what I term a "diamond truck" journaled to the car-axles without intervening springs or motion.

In the drawings, Figure 1 is a side view of sufficient of a tram-car to illustrate my invention. Fig. 2 is a plan.

The diamond truck consists of the two truck-sills C C, two cheek-sills F F, and two pairs of crossed rails H I, the central six-sided well X, and side wells Y. The truck carries in each small well Y one of the half-sections of the wheel-brake mechanism, consisting of a rock-shaft *a*, with its journal-bearings *b c*, secured to the truck-sill and cheek-sill, the rock-shaft having a short arm *d* on its upper side and a similar arm *e* at the underside, each arm with an articulated adjustable bar *f* connecting with the brake-shoe slide-bar *g*, which slide-bars have at their outer or wheel ends shoes *h* for wheel contact. The slide-bars *g* rest on the composite cross-rails of the truck in diagonal keepers *j*, which allow to the slide-bars freedom to move the brake-shoes to and from the wheels. Each rock-shaft has an additional arm *k* connected by a shoe-brake coupler-rod *m* with the coupling rock-shaft J, which unites the sections of the wheel-brakes in the small wells Y at opposite sides of the car-truck, and a single articulated rod *n* from the coupling rock-shaft to the brakeman's

handle K is adapted to convey his energy simultaneously to both sections of the wheel-brakes. The wheel-brake on the diamond car-truck is made to recoil by attaching to the rock-shaft arm a recoil-rod *p*, shouldered against a spiral spring *q*, the rod continuing through the spring and through the loose end of one of the crossed rails against which the spring abuts, and after being crushed recoils and restores the brake to its inactive position.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. A car-wheel brake adapted to a car-truck, having crossed rails passing the wheel-treads diagonally, and the shoe-bars sliding through diagonal keepers secured to the diagonal crossed rails, substantially as and for the purpose described.

2. A car-wheel brake adapted to a car-truck, the brake mechanism attached to the truck-sills, cheek-sills, and diagonal crossed rails, and the operating-lever of the brake located at the car-front, as and for the purpose described.

3. A car-wheel brake on a truck with its diagonal cross-rail supporting shoe-bars, each shoe-bar carrying at one end a brake-shoe, with mechanism adapted to force the shoe against the car-wheel and again release the shoe by a rock-shaft-arm recoil-rod shouldered against a spiral spring, the rod continuing through the loose end of the cross-rail against which the recoil-spring abuts, whereby after being crushed the spring recoils and restores the brake to its inactive position, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN STEPHENSON.

Witnesses:

S. A. STEPHENSON,

JOSEPH B. STEPHENSON.